# ABSTRACT

One way to revive the Romanian agriculture and achieve performance in this sector is the implementation of managerial and marketing strategies in order to create viable systems and structures aimed at organizing, producing, exploiting and marketing of agricultural products. This can be done in an integrated system aimed at increasing profits and its judicious distribution.

The benefits obtained by the integration process are: reduce production costs, increase revenue and raise new jobs with social benefits in rural areas.

The PhD thesis titled **"*Studies regarding the organization of cereal production in integrated system on the Covurlui Plateau*"** has as main purpose the scientific presentation of the integration process of production of grain cereals in an agricultural representative area in the eastern part of Romania.

The research project aimed to achieve the following objectives:

• theoretical foundations of the concepts of integration and cooperation in agriculture;

• characterization of the natural, economic and social frame of Covurlui Plateau;

• Diagnostic analysis of agricultural development in Covurlui Plateau;

• Analysis of integration level of grain production in Covurlui Plateau;

• a study on the organization of production of cereals in an integrated system in Covurlui Plateau.

The thesis is divided into seven chapters, an introduction and a bibliography.

The **first chapter** is entitled „*Theoretical aspects and research stage regarding the organization in an integrated system of agricultural production*".

In this chapter an overview is given of the main theories on the integration of production, in general, with special attention on the integration process in agriculture.

There are showed the main advantages of integration, namely economic efficiency and the quality level of finished products. Further there are described the main types of integration: vertical integration, horizontal integration and combined integration (mixed). The description of these types of integration is performed analytically, giving the advantages and disadvantages of each type.

A separate section of this chapter has in view the process of cooperation, without which the current structure of Romanian agriculture can not achieve production integration. In this sense, it is described the form of "*integration through cooperatives*", prevalent in countries with advanced agriculture in Western Europe and could have viability in Romania, too.

In part two of this chapter it is described the state of research in integrating agricultural production. The content of this chapter has as base the study of specialized bibliography, investigated in the field, starting with foundation concepts of integration and mainstreaming in agriculture channels. I. Malassis's theory is developed which consists in describing food chain as a complex process that includes raw material production, industrial processing, selling and the equitable distribution of profits. It is considered that the agricultural sector can be broken down into sub-functional and socio-economic sub-sectors. Theories of other researchers are also tackled: Buciuman E. – 1999, Angela Popescu – 2002, Diana Claudia Sala – 2002, Tournier – 1989, Letiția Zahiu – 2001, Borgen S.O. – 2000, Kyriakopoulous – 1998 etc.

**Chapter 2** has the content "*Aim, objectives and research method*." This paper has proposed as the primary goal the accomplishment of a scientifically sound project, integrating the production of cereals in a specific area of this group of cultures - Covurlui Plateau. In establishing the theme, we started from the idea that only through integration, the cereal production may reach high economic performance indicators. It is shown that, in general, compared with other crops, the profitability of cereal grains has a low return. The analysis showed that Covurlui Plateau is poorly integrated on the whole agricultural production throughout the entire area and it is representative for the east part of the country.

Among the objectives pursued, in addition to the theoretical presentation of the integration process, we note the overall characterization of the natural, economic and social framework, the diagnostic study of the development stage of agriculture in Covurlui Plateau, analysis of the level of integration of agricultural production in the area and presentation of the integration strategy of cereal grain production, namely production, processing and use of products derived from grain cereals, directly or through animal breeding.

In the final part of the chapter it is presented the research methodology that includes both the research, and the methods and procedures used in research. The following methods were used: monograph, inductive-deductive method, comparative method, the method of division, a chain substitutions method, graphical method, the correlations method.

**Chapter 3** deals with "*Characterization of the natural, economic and social framework of Covurlui Plateau"*. The chapter is complex and at the beginning deals with issues concerning the geographical demarcation and administrative structure. Covurlui Plateau is part of Galati County, located in its north, at the eastern extremity of the Romanian Plain. It is a largely agricultural area, comprising 16 communes and 2 cities.

The landscape is typical of the plateau, with the succession of slight ridges and large fields with an average altitude of 150-200 m. The climate is temperate-continental, with hot and dry summers and cold winters, marked by snow storms. The average annual temperature is 11.7 °C, and the average rainfall is 554.8 m. The hydrographic network is weak, the main water source, located in an asymmetrical position, is the River Prut. The area has good soils for agriculture, predominantly chernozem.

From an economic perspective, the main industry is agriculture. It is dispersed, predominantin the individual farms, in number of 8674 and only 111 commercial farms, with legal personality.

Covurlui Plateau has sufficient human resources to meet workforce needed. The total population is 63,561 inhabitants with a density of 49.4 persons per $km^2$. The active population represents 43.4% of the total, the majority (90%) is employed in agriculture.

**Chapter 4** deals with " *Development of agriculture in Covurlui Plateau*.

Covurlui Plateau has an agricultural area of 100,000 ha, of which the weight - 76% is held by the arable land. The crop structure shows that grain cereals occupy two thirds of the arable land. There follow the oil plants (sunflower and rape by 20.4% and forage plants 5.4%). In the grain cereals, winter wheat and maize have similar weights. In recent years there has been an increasing tendency of the areas covered with winter wheat at the expense of maize, due to the high level of mechanization and slightly higher selling price.

The average yields of cereal grain crops have an average level, if we compare them with those recorded nationally, but far from the high productive potential of soils.

Water is the main factor limiting element, which reduces these production. There is a variation, caused especially by climate fluctuations, being recorded levels between 1500-3000 kg/ha.

The relatively low average yields and poor equipment is determined by mechanical means, such as, for example, a tractor serves 120 ha agricultural land and 89 ha of arable land.

Across the territory, the average size of individual farms is 7.1 ha, and of economic holdings with legal personality, is about 500 ha.

The total cereal production, averaging 100,000 tons per year, was distributed in equal parts for own consumption and selling. In most cases the selling was made directly from the field, in unfavorable conditions for the producer, as they do not have proper storage space.

There are in the Plateau Covurlui warehouses with a capacity of 77,700 tons, but they are not organized in an integrated system, they do not belong to the grain producers and the benefits obtained by their use are acquired by different operators.

The economic efficiency of grain crop shows wide fluctuations in economic indicators, ranging in selling price by market fluctuations. Given that production costs are dependent on a number of factors (climate, technology, etc.), the profitability indicators have varied widely, which justifies the need for integration of grain production to ensure revenue stability.

The lack of integration has affected cereal crops and livestock size, they also being reduced in number and in the process of decline. Stocking density at the end of 2009 was 8.2 UVM at 100 ha to bovine, 16.7 hectares UVM/100 - sheep and goats and 5.3 UVM per 100 ha in horses. At farm level, most grew 1-2 cattle heads (95%), 1-2 pig heads (99%) and up to 10 sheep and goat heads (93%). Only two farms grow over 50 head cattle, a farm - 90 swine heads and farms between 500-1200 sheep heads.

**Chapter V** has the content "*Analysis of integration degree of cereal production in Covurlui Plateau"*. At the beginning it is presented the situation of the economic agents which process and sell the cereal grain production. There are two bakery units and seven milling units. All units are independent, non-integrated in a heritage group of farmers, taking the share in profits made in the cereals sector. In addition, they recovered only a small part of the production of cereals, breads and almost never in animal production.

There are a number of 14 individual households with mixed character: crop production – livestock breeding. The amount of grain valued through breeding is reduced (1567 tons) compared to the total annual volume of grain produced in the area (100,000 tons). This demonstrates the need for increasing the integration grain production by livestock, which is the most effective way of increasing revenue.

Economic results presented by 4 units of processing cereal products demonstrate their profitability, the profit which does not benefit those who produce the raw material, i.e. grain growers.

**Chapter 6** has the title " *Studies regarding organization of cereal production in integrated system in Covurlui Plateau”*.

At the beginning of the chapter it is made the grain output assessment, susceptible to be exploited in an integrated system.

The calculations show that total cereal production can be achieved in the short run Covurlui Plateau is 100,000 tons, of which self-consumption (as food and farm animals) is required for 40% of total amount, differentiated as, potentially, for integrated processing system.

Further there are presented two case studies. The first refers to "*Profitability of cereal products and cereals in an integrated system of production organization, at SC PROD 13 SRL Corni, Galați County*". The company has as object of activity the crop production. At first there are analyzed the production and economic results based on a set of economic indicators: the structure of arable land, material and technical basis, average yields and total expenditure, revenue and profit, human resources. Next, a project is made for a grinding mill for processing the obtained cereal grains. The calculations are done analytically and result in a profit to ensure return on investment in 2-3 years.

Also in this study there is designed a second goal, a bakery. It is proposed that the investment in equity is ensured by using profits from the first objective. The amount of income is 100 lei, investment is 116 lei, which demonstrate the economic viability of the project.

The second case study has as objective " *Profitability* of cereal products and grain production organization in an integrated system at SC AGROSERVICE SRL *Vârlezi”*. The company has as main activity the production of cereals and other grain crops, and as a secondary activity, services and agricultural mechanization. The agricultural area is of 977 hectares, of which 70% are filled with grain. It is made in the first part, a techno-economic analysis of crop production, further suggesting an integrated project to increase broiler, with an annual capacity of 100,000 head, which enhance a part of cereal production. The project includes the analytical aspects of investment and technology, and finally economic efficiency calculations are made. Annual production is estimated at over 200 tonnes, with a profit rate of 5.82%.

The end of the thesis includes a set of conclusions drawn from the content of the paper where it is sustained by arguments the need to integrate production of cereals on different channels to ensure revenue growth that ensures the production of cereals.